DD(X) Land Attack Destroyer

In November 2001 the Navy restructured the DD 21 Program and re-designated it DD(X) to focus on technology development and maturation, including robust land-based and at-sea testing of transformational technologies that could be leveraged across multiple ship classes. The Navy is conducting a spiral design review to assess the merits of achieving various levels of capability in a family of multi-mission ships, including the Land Attack Destroyer, DD(X), a future cruiser, CG(X), and a Littoral Combat Ship (LCS). The destroyer class will be designed first and will draw heavily on the research and design work already performed for DD 21. The spiral development approach is intended to reduce risk by introducing desired capabilities over several flights of destroyers rather than placing all of the risk on the lead ship, as envisioned for DD 21.

DD(X) is expected to have an integrated power system that is intended to allow sharing of electrical power between propulsion motors and other mission systems. A new radar suite, incorporating both a Volume Search Radar and a Multi-Function Radar , is expected to provide state-of-the-art battle space surveillance. The Advanced Gun System (AGS) is intended to support land attack and surface mission requirements. The AGS is planned to be a single-barrel 155mm gun supplied by an automated magazine that is expected to carry a family of long-range land attack and surface projectiles. Advances in survivability and computing power are intended to significantly reduce crew size, with the introduction of additional new technology further reducing manning with each successive flight.

DD(X) will operate independently or as an integral part of Naval, Joint, and Combined maritime forces. Tailored for land attack, DD(X) is intended to provide firepower support for amphibious and other ground forces and be capable of launching precision strike weapons. DD(X) is expected to contribute to the protection of friendly forces through the establishment and maintenance of surface and undersea superiority and local air defense. The DD(X) design intends to incorporate signature reduction to enable the ship to operate in all threat environments. DD(X) is the replacement for retiring *Spruance* (DD 963) class destroyers and *Oliver Hazard Perry* (FFG 7) class frigates, which are reaching the end of useful service life.

On April 29, 2002, the Navy awarded a contract to Northrop Grumman Ship Systems to be the design agent for DD(X). Shortly thereafter, General Dynamics filed a protest with the General Accounting Office. The Navy issued a stop work order to Northrop Grumman pending protest resolution. The GAO denied the protest on August 19, 2002, and Northrop Grumman resumed work under the contract.

TEST & EVALUATION ACTIVITY

Although Test & Evaluation activity has been restricted because of the award protest, DOT&E has participated in development of the Surface Combatant Family of Ships capstone requirements document that will guide the development of requirements for DD(X), CG(X), and the LCS. DOT&E has also participated in Multi-Function Radar test planning meetings and the planning for a weapons effects test involving the Ex-*Caron* (DD 970). The draft Test and Evaluation Master Plan is under review. The draft Live Fire Test and Evaluation Management Plan is expected to be ready for review in March 2003.

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TEST & EVALUATION ASSESSMENT

Both the requirements and the design are in flux. Plans for extensive prototyping of the new technologies to be introduced in DD(X) in land-based and shipboard engineering development models are expected to provide a rich environment for early operational testing of key DD(X) features. Although still early in DD(X) system design, use of the self-defense test ship will probably be the most effective way to operationally test the ship's defense against anti-ship cruise missiles.